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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,839	08/06/2002	Henry J Riddoch	1085-043-PWH	5269

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EXAMINER

TYLER, CHERYL JACKSON /

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 12/17/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,839

Applicant(s)

RIDDOCH, HENRY J

Examiner

Cheryl J. Tyler

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-44 and 47-50 is/are rejected.
- 7) ☒ Claim(s) 45 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because in Figure 6, element 27 does not denote the same "extension" as in Figure 5. Stated another way, element 27 in Figure 5 does not appear to be the same element as denoted in Figure 6. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.*
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.*
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.*
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC*
(See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)),

"Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

In the instant application, there are no section headings.

4. The disclosure is objected to because of the following informalities:

- The recitation of "plastics frame" (claim 9, line 17) is presumed to be --plastic frame--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 33-44 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harmsen et al. (Re. 34,456) in view of Rupp et al. (6,175,171).

Harmsen et al. teach an axial fan having a housing 1 manufactured from plastic (see

column 2, lines 51-53) and incorporating an external rotor brushless DC motor wherein the motor includes a stator assembly 6 having a base plate (generally indicated as 32 in Figure 6); a winding assembly (generally indicated as 29 in Figure 6) affixed to the stator assembly base; circuitry 20, in the form of a printed circuit board with a plurality of components mounted on both surfaces thereof (see Figures 3-5), and being associated with the motor. As illustrated in Figures 3-6, the circuitry is attached to the base plate, and at least some of the components of the circuit board are positioned on both the surface and the opposite surface of the printed circuit board to that adjacent the base plate. Harmsen et al. further teach a cover plate 2 that covers the motor and forms a part of the housing 1 (see Figure 6).

While Harmsen et al. teach a general motor for an axial fan, they do not explicitly teach orienting the circuit board to better dissipate heat and thus, improve the cooling capacity of the motor. Rupp et al. teach such a motor. The Rupp et al. motor includes a base body 13 (corresponding to the claimed stator assembly) "comprised of a favorably heat conductive material, e.g. aluminum" (column 2, lines 14-15). Rupp et al. further teach a support 132 (corresponding to the claimed stator base assembly) "embodied as being of one piece inside the base body" (column 2, lines 18-19); and a printed circuit board 19 "disposed on the side of the support 132 of the base body 13 oriented away from the rotor" (column 2, lines 33-35). As illustrated in Figure 1, the support 132 is disposed between the printed circuit board 19 and a winding assembly (which Rupp et al. teach is comprised of a number of multipole stator laminations 14 with the windings 15), and has a side wall depending away from the winding assembly.

The side wall being within an air flow and comprising part of a heat transfer path to dissipate heat away from the motor, and further defining a recess within which the printed circuit board is located. Rupp et al. teach a number of power transistors, which are disposed on the printed circuit board so that "with their cooling surfaces 21, they lie flat against the radial surface of the support 132 oriented toward the printed circuit board" (column 2, line 37-39). As illustrated in Figure 1, there is a covering cap 23 (corresponding to the claimed cover), wherein the circuit board is located between the support 132 and the cap 23; a molded mass 26 (corresponding to the claimed hermetically sealed enclosure) housing the printed circuit board; and means for supporting the winding assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Rupp et al. motor, in the Harmsen et al. axial fan, in order to remove dissipated heat from the electronics in an improved and accelerated manner (see Rupp et al. column 1, lines 29-30).

Allowable Subject Matter

7. Claims 45-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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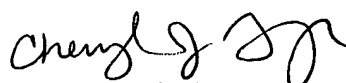
- Gold et al. (US 2002/0187059) teach an electric fan device as known in the art.
- De Filippis (5,217,353); Rupp et al. (6,488,485) ; and Maekawa (5,071,322) teach fan motor devices as known in the art.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl J. Tyler whose telephone number is 703-306-2772. The examiner can normally be reached on Monday-Thursday, 6:00 - 10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine R. Yu can be reached on 703-308-2675. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.


Cheryl J. Tyler
Primary Examiner
Art Unit 3746

CJT
December 15, 2003